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ABSTRACT

This paper makes a critical exploration into the core epistemological assumptions of mainstream television effects research and explains why the mainstream study of the cognitive impact of television on children suffers from two reductionist tendencies, i.e., television is understood by most researchers to be solely a technical medium, and most cognitive effects of television are perceived to be relevant only to cognitive skills and knowledge. It is argued that the impact of television on beliefs has generally been left unexplored and unexplained, and that this double reductionism has reinforced researchers' optimistic analyses of television's potential for children's education. In addition, the paper describes how such analyses focus on what television--and video technology--can be made to do (the intended effects), and thus automatically rule out systematic consideration of unintended effects. Based on an understanding of both the historical determination of television as a profit-making institution and the specific quality of television for making its messages believable, researchers are urged to consider an alternative perspective aimed at investigating primarily and directly the unintended cognitive effects of television. (17 notes, 117 references) (Author/CGD)

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RESEARCH ON COGNITIVE EFFECTS OF NON-EDUCATIONAL TV: AN EPISTEMOLOGICAL DISCUSSION

By

Guillermo Orozco Gómez

Paper Presented to the 1986

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Research on Cognitive Effects of Non-Educational TV:

An Epistemological Discussion

ABSTRACT

The paper makes a critical exploration into the core epistemological assumptions of mainstream TV effects research. The paper explains why the mainstream study of the cognitive impact of TV on children suffers from two reductionist tendencies. First, TV is understood by most researchers to be solely a technical medium. And second, most cognitive effects of TV are conceived as relevant only for cognitive skills and knowledge. The impact of TV on beliefs has generally been left unexplored and unexplained. It is argued that this double reductionism has reinforced researchers' optimistic analyses of TV's potential for children's education. Such analyses focus on what TV--and video technology--can be made to do (the intended effects), and thus, automatically rule out systematic consideration of unintended effects. With an understanding of both the historical determination of TV as a profit-making institution and the specific quality of TV for making its messages believable, the paper urges researchers to consider an alternative perspective aimed to investigate primarily and directly the unintended cognitive effects of television.

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RESEARCH ON COGNITIVE EFFECTS OF NON-EDUCATIONAL TV: AN EPISTEMOLOGICAL DISCUSSION

INTRODUCTION

The cognitive impact of television is not a new concern of researchers in communication and education. On the contrary, it has been an issue for at least two decades. What is striking, however, is that after so many years of TV research and despite some interesting studies, the research literature provides so little knowledge about cognitive effects of non-educational, commercial TV (Gardner, 1982; Hawkins and Pingree, 1982).[1] Researchers know something about what children learn that educators want them to learn from educational TV ("intended effects"), less about what they learn that educators do not want them to learn ("not-intended effects") and even less about what children learn from non-educational TV ("unintended effects"), which is what is most frequently watched.[2]

The main purpose of this paper is to explain why there is so little research about unintended, cognitive effects of commercial TV. To do this, one must first discuss what has been intended in TV research. The paper develops an epistemological discussion to examine the interests and assumptions of researchers in the dominant, "mainstream" approach to TV's cognitive impact on children. While not pretending to offer an exhaustive examination of the mainstream approach, the paper does critically review the way in which researchers have traditionally addressed the study of TV's cognitive effects.[3] The view defended in this paper holds that the paucity of knowledge about unintended cognitive effects of TV is the result of the way in which researchers have conceptualized and investigated their object of study.

The paper is fundamentally argumentative. It attempts to show that the mainstream approach to study cognitive effects of TV suffers from a double reductionism. First, TV is understood by most researchers as solely a

technical medium; this view ignores the historical and cultural determinations of TV's definition as a social institution. Second, most cognitive effects of TV are seen by researchers as relevant only for cognitive skills and knowledge. The impact of TV on beliefs goes unnoticed. This double reductionism has reinforced researchers' preference for optimistic analyses of TV's potential for children's cognitive development.[4] Such analyses automatically rule out systematic consideration of unintended cognitive effects. Most frequently excluded are those effects on beliefs arising from TV's chief characteristic of presenting information as if it were true. The paper suggests that because television broadcasting was developed in the U.S. (and most capitalist countries) primarily as a profit-oriented institution rather than as an educational tool, program content is organized and transmitted in a form meant to appear as true for all people.

The paper is divided into three main sections. Discussion in the first centers on differences between intended and unintended effects. The second section presents an historical review of major research concerns and interests in the study of cognitive effects of TV. The discussion in the third section focuses on the basic assumptions that underly the mainstream approach to TV research.

I - COGNITIVE EFFECTS OF TELEVISION

In order to sharpen understanding of unintended effects, this section starts with a brief analysis of main differences between teaching and learning.[5] Teaching involves two main aspects, intention and success, which together imply a third: consciousness. As a conscious, intentional activity, teaching has a goal: to produce at least "a bit" of learning in the students. Independently of whether or not the desired goal is achieved, both intentionality and

explicit "trying" are present. Teaching is intended to produce conscious learning through concrete means: students are involved in a rational process. Teachers do not want to bring about just any kind of learning; they mostly want to stimulate students to make conscious and free "rational judgements" (Scheffler, 1983).

Learning, on the other hand, can take place without the learner's awareness and without the learner's participation in a teaching activity. Learning does not require intentionality. Learning can occur without the goal of learning. Teaching as a rational activity is "restricted in manner." In contrast, learning is not specifically restricted to the use of rational elements. Much of what students learn is acquired through the emotions. For example, in teaching, teachers can expect to achieve the intentional teaching goal, but they cannot expect to achieve only that goal. Yet even when teachers do not achieve the intended goal, they still produce other bits of learning in students.

I.1. Educational and Non-Educational TV Programs

TV programs can be classified by their intentionality. First, an educational TV program has an intentional teaching goal and is expected to produce some conscious learning. The goal is explicit and is built on a proposition to teach something specific; it is an invitation to conscious learning. In contrast, a non-educational TV program lacks explicit teaching goals, although other types of goals, e.g. to entertain, are present.

Second, in an educational TV program, rational elements are used to bring about learning by the viewers. The objective is to allow all participants in the teaching-learning process to evaluate the proposition, to contest or accept it. Producers of educational TV programs try to control different technical and content-related aspects of the program in order to ensure the successful fulfillment of the learning goal (Johnston and Ettema, 1982).

In commercial or non-educational TV, however, this does not occur. The producer's goal is popularity not learning. In the production of advertisements there are "learning goals" (e.g. brand name recognition), but in most instances these intentions are masked rather than made explicit to the viewer. But other learning occurs independent of the producer's intentions or the absence of them.

Similar to what happens in a regular teaching situation, producers of educational TV programs cannot guarantee that the desired goal is all that will be learned by the viewers. In fact, as Slaby and Quarfoth (1980) report, besides learning what producers want them to learn through educational TV programs, children learn other things as well. That is, children learn not only from what is explicitly included and consistent with the teaching goal, but also from that material which is incidental.

In addition, children learn a great deal from non-educational, commercial TV programs, perhaps more than what they learn from educational TV programs. Montoya and Rebeil (1983) investigated some of the learning outcomes of students in TV secondary schools in Mexico City at the end of the school year.[6] Overall, Montoya and Rebeil found that children showed more knowledge, opinions and beliefs about information in regular commercial programs than about information in the TV programs they watched in the classrooms. For example, children remembered the names of the actors in U.S.-based TV series better than the names of Mexican heroes and historical personalities explicitly taught in the TV secondary program.

I.2. Intended and Unintended Cognitive Effects

Cognitive effects of TV are intended to the degree that they correspond with specific teaching goals. Unintended effects have been defined as those effects produced without an explicit correspondence with a teaching goal.

This does not mean, however, that most of the learning outcomes in TV programming are not related to other goals (e.g. information, entertainment, propaganda).

The major problem with effects resulting from non-teaching goals is that a clear relationship between these effects and other types of goals is difficult to establish. This is problematic for commercial TV effects because one cannot make judgements about the intentionality of the programs by looking at the learning outcomes. In contrast, for programs with an explicit teaching goal it is possible to judge the relevance of this goal for educational purposes. It is also possible to evaluate the learning outcomes in relation to what was taught.

Unintended effects result from both educational and non-educational TV programs even when producers have no intentions to provoke specific learning in their audience. While some of these effects might not represent clear damage to the audience's cognitive development, not all of what children (or adults) learn from the TV screen is positive or relevant to them.

In fact, some research evidence suggests that some unintended effects are clearly negative. For example, Hornik (1978) points out that while children may learn a great deal from educational TV programs that is positive to their intellectual development, at the same time TV provokes deteriorating effects on these children, slowing cognitive growth. Hornik suggests that both overall school achievement and attainment of specific learning abilities such as reading comprehension slow down for children who are heavy TV viewers. Salomon (1982) also reports research evidence of negative effects of TV in relation to children's reading abilities.

In an extensive review of research about TV's influence on "children's construction of social reality," Hawkins and Pingree (1982) report that there

is empirical evidence that TV helps shape beliefs, values and attitudes. Hawkins and Pingree say that TV engenders negative attitudes toward certain classes of people (doctors, the elderly, foreigners and women) as well as toward certain family values and criminal justice. They also report that TV influences sex behavior and attitudes toward sex roles. They explain that TV contributes to the cultivation of a sexist orientation, sometimes directing children from a non-traditional perspective to a more conservative one, and sometimes vice versa. The reinforcement of sex role stereotypes has also been acknowledged by other authors (e.g. Singer and Singer, 1984; Gerbner and Signorielly, 1979). Hawkins and Pingree (1982) conclude that TV "...does appear to have a significant influence on the children's construction of social reality" (p. 226). Besides noting the paucity of research in this field, they attribute the lack of more detailed conclusive evidence about this influence to methodological issues. For instance, they suggest that it is difficult to account for TV's influence on social reality since "...(most likely) this influence will be that of stabilizing and reinforcing the status quo--something difficult to document with statistics designed to measure differences, not the absence of differences" (p. 224).

The extent to which unintended effects of TV are negative is not easy to determine. In part this is because of the methodological reason suggested above. However, the major difficulty in determining whether a TV effect is negative is the value judgement implied in the term "negative" (Rowland, 1985). There are no goal statements that can be used to label a particular unintended effect. The researcher or social critic must insert his/her own values. In a social science that seeks to be "value free" unintended effects pose a distinctive problem for the researcher.

I.3. The Predominant Non-Educational Character of TV

As with other media such as film and radio, the use of TV for instructional purposes does not mean that it is primarily an educational tool. Above all, TV is a general broadcasting technology. Its development was not stimulated by educational interest; mainly political and economic forces predominated (Williams, 1983).[7]

The consolidation of TV as a profit-oriented enterprise in most modern capitalist countries has moved it further away from educational objectives. Indeed, Williams (1983) contends, TV--and the satellite transmission industry--are an essential support for current market expansion. In particular, Williams notes that there is a "...clear intention in the strongest centers to use the new communication technology to override--literally to fly over--existing national cultures and commercial boundaries" (p. 132). Here Williams argues that satellite TV is seen as the modern and most perfect way of penetrating national markets and cultural areas. Multinational TV corporations already use these new channels to communicate messages to cultures and countries.

Two important points can be drawn from Williams. First, the primary economic aim of TV corporations dictates what is produced and transmitted by TV (Siegel, 1982). Even though the TV corporations include some educational programs, even these programs are subject to commercial priorities and regulations about production and time of transmission (Leifer, et al., 1974). Second, the goal of cultivation of some values (e.g. consumerism) through commercial TV broadcasting is not always made explicit. While commercial propaganda is directly manifested in advertisements, the cultivation of consumerism among TV viewers is not found only in advertisements (Atkin, et al., 1982). It permeates other regular programming in subtle ways. The promotion and reinforcement of values of "having more" as a means

to happiness is but one example.

The fact that the promotion of values like consumerism is not circumscribed to program "A" or "B" means that TV's effects are diffused. The consequence of diffused effects of non-educational TV programming is that any rational evaluation of learning outcomes has to go beyond single programs. For Gerbner and his colleagues at the Annenberg School of Communication, the major impact of TV is not the immediate one resulting from watching a concrete program, but that impact derived from the accumulation of TV viewing. This has been referred to by Gerbner (1982) as the "cultivation effect" of TV. It is precisely the fact that there are diffuse, undesired effects for some groups that makes it even more urgent to approach them (Hawkins and Pingree, 1982).

I.4. Some Not-Intended Educational Consequences of Viewing Commercial TV

The unintended effects of commercial TV programming would be a less serious problem if children did not watch TV. But children and adolescents spend a great deal of time in front of the TV screen (Morrisett, 1984). Recent figures show that in the U.S. children and adolescents not only watch several hours per day of regular, non-educational TV programs, on the average they spend more time viewing TV than they spend in the classroom (Liebert, et al., 1982). Slaby and Quarfoth (1980) suggest that children do learn from TV.

> ...a considerable amount of 'observational' learning can occur without any opportunity for children to practice what they have seen and without the occurrence of any obvious reinforcement given either to the television performers or to the children themselves (p. 237).

If children learn from TV, and if that learning is not explicitly related to the teaching goals of school, it is possible that TV learning contradicts or at least fails to reinforce school learning.

One major consequence of children's increasing exposure to TV appears to be that teaching activities are losing relevance for children's cognitive development and their educational process in general (Morrisett, 1984). Another important consequence is that much of what students are being taught in schools through rational explanations and critical thinking processes may be threatened by what students learn from TV. In fact, there is some research evidence that critical thinking is counteracted by regular TV programming to the extent that values of conformism and consumerism are fostered in this type of programming (Montoya and Rebeil, 1983). Educational researchers should look at unintended cognitive effects of commercial TV because some of what students learn from TV may be what teachers do not want them to learn. Some of this learning might be an obstacle to school-based learning; other learning may include values counter to those taught in school (Holz, 1981).

In sum, educational programming explicitly designed to teach generates only a small fraction of the learning outcomes from commercial TV. Research evidence suggests that unintended effects of commercial TV may have negative consequences for children's education. These result because TV is organized for profit not learning. Relying on Dewey's theory of education, Scheffler (1974) points out that if students' learning outside the teaching process represents a negative influence for this process, then it is the educator's responsibility to take that learning into account.

II - RESEARCHERS' CONCERNS IN THE STUDY OF COGNITIVE EFFECTS OF TV

The focus of this section is on some researchers' ways of conceptualizing their own scholarship. The main purpose here is to critically review dominant researchers' concerns in order to start developing an explanation for the paucity of research about unintended cognitive effects of TV.

II.1. A Polemical Account of the History of TV Effects Research

In its dominant form the study of TV effects originated in the United States and was then exported to other Western countries. The rise of research about TV effects in general and TV cognitive effects in particular can be understood in light of both the economic and political determinations of the U.S. TV industry and the development of the social and behavioral sciences.

TV became both a profitable business in itself and the means par excellence for advertising, which constituted one of the most important ways for market expansion in a growing capitalist system (Montoya, 1981; Esteinou, 1981). TV obviously did not inaugurate the modern publicity era, but given the audio-visual characteristics of TV as a medium and its broad coverage, TV opened unprecedented possibilities for the conquest of potential consumers from the ever-increasing TV audience through the advertisement of old and new products and services. This situation had lasting consequences not only for the further development of the TV industry as such--technical production, programming priorities and allocation for time of transmission--but also for research priorities.

The existing techniques of marketing research and opinion surveys were increasingly used to determine consumer preferences, both quantitatively and qualitatively. As Rowland (1983) notes, the need to link TV's audience with advertisements brought new challenges for researchers like Stanton and Lazarsfeld who were already using sampling techniques of sociology for the study of press and radio audiences. The demand for a better audience research

tool led to the emergence of new companies to investigate audiences' opinions and preferences and to design the required tools. Funds from different sources, such as government agencies, the TV industry itself, corporations and foundations were easily available to subsidize the new research. Even researchers whose main work was at the universities combined their academic activities with research projects for specific clients within the broadcasting world.

Several consequences resulted from the association between research groups and the broadcasting industry. Perhaps the most important consequence was the development of scholarship highly determined by the needs and priorities of the broadcasting industry (Rowland and Watkins, 1984). This determination was not only in research methods and objectives, but most importantly in the research questions. Montoyaand Rebeil (1983) suggest that questions related to both the role of TV and that of communication in society were put aside. That is, researchers implicitly accepted the purposes and priorities of the owners of the broadcasting industry.

Another important, though somewhat obvious, consequence for the new scholarship in the study of effects of TV was the emphasis on methodology. The need for better research audience tools was not a matter of principles but of methods and techniques (Rowland and Watkins, 1984). This, however, implied a particular understanding of the task of scientific research, namely, that a separation between research purposes and the definition of the research problem is possible without affecting the understanding of the object of study in question (Bryman, 1984; Garfinkel, 1981). The conception of a scientific practice designed to account as much as possible for pre-defined objects of study found extraordinary support not only within the broadcasting industry and related fund-generating institutions, but also within the broader scientific community, by now pragmatically oriented (Ellingsworth, 1983).

The development of social and behavioral sciences in a context characterized by an unprecedented technological growth and its societal changes facilitated the primary practical orientation of scientific research (Rowland and Watkins, 1984). A rupture took place between the traditional, theoretically-oriented European social sciences and the new American sociology (Mannheim, 1936). The new scientific practice rejected its roots in the old tradition as it gained force and prestige under the inspiration of brilliant philosophers, sociologists and behavioral scientists.

In "turning away" from the European tradition, the new social sciences embraced numbers and statistics because these were seen as neutral devices, and thus useful for research demands of objectivity (Rowland, 1983). The most important issues for social scientists then became those stemming from the reliability and validity of data (Gonzalez C., 1981). As data collection techniques became more and more sophisticated, ever-increasing emphasis was given to social science's predictive character. This facilitated the exclusion of certain research categories (such as social class) as well as of discussions about social responsibility. This exclusion was also reinforced by "methodological individualism" (Ricoeur, 1980), especially in behavioral psychology. This "experimental" methodology took the individual as the unit of analysis, thereby addressing individual differences rather than social or structural characteristics (Garfinkel, 1981).

II.2. The Pervasive Research Interest in the Study of TV Effects

Within a context highly determined by economic and technological priorities and by the practical orientation of the scientific community, the study of TV effects developed as a particular type of research. This research was based on individually-oriented experimental observation, decon-

textualized from historical and societal issues (Rowland and Watkins, 1984). At the same time, it was a research whose objectives were highly dependent on technical and economic interests (Cook, et al., 1982). Consequently, the most important original interest in TV effects research was the effectiveness with which TV messages were being communicated to the TV viewers (Montoya and Rebeil, 1983). What was most important to know was if the TV audience--considered as a set of potential, individual consumers--was being stimulated or persuaded to move in the direction determined by the TV industry. That is, the major preoccupation was for the improvement of TV's ability to reach an ever-increasing audience. Within this major interest, relevant questions for TV effects research were about what was being received by TV viewers. In line with this original concern for the efficacy of TV messages, another research question asked about viewers' use of TV messages (i.e. its functionality to broadcasters' goals). In synthesis, the relevant questions in TV research focused on "what" rather than "how" and "why" effects occur.

Over the last three decades, effects of TV have received increasing attention. Research models, methods and techniques to account for these effects have been modified by transformations in other disciplines. For instance, researchers' interest in the effectiveness of communication in TV messages has found additional scientific support in the development of modern information sciences.[8]

The impact of the cybernetic model on the study of effects of TV has been twofold. On the one hand, it provided a coherent rationale for focusing attention on the transmission and reception of a TV message and away from the prior determination of the message by the sender. The underlying reasoning seems to have been something like the following. Given that there is

a message, is it efficiently transmitted and is it effective in accomplishing the sender's objective? A discussion about the origin and purposes of the "given"--of what is communicated through TV--was excluded.

On the other hand, the incorporation of the cybernetic model and its rationale facilitated what Rowland (1983) refers to as a "marriage" between the emerging information sciences and the learning theories. The sender-message-receiver model fit together with the stimulus-response model of behavioral psychology. From then on research about effects of TV has been strongly associated with experimental methods. As Hall (1982) argues, the rationale behind the study of the effects was that if TV or any other medium had effects, these effects "...should show up empirically in terms of a direct influence on individuals, which would register as a switch in behavior" (p. 59).

While there has been a significant advance in the way the effects of TV are investigated[9] as well as an increasing specialization in the type of effects studied (e.g. effects on attention and comprehension, Bryant and Anderson, 1983), the general original interest in the study of TV effects remains basically the same and predominates the field of TV effects. Interest in moving the TV audience in the desired direction--originally associated with advertising--permeates many other areas of research in TV effects. (For example, see Rogers, 1976, p. 43). In sum, the major interest in the study of effects of TV has been to look at the way in which the intentions of the communicators are accomplished, via their influence on the behavior of individual receivers.

II.3. The Dominant Researchers' Concern about Cognitive Effects of TV

Following the tradition predominant within the study of TV effects, the major concern among researchers of the cognitive impact of TV has been to

explore the potential of TV (Dorr, 1979). That is, attention has been given to the enhancement of TV's intended effects on cognitive development. Even though researchers within the mainstream approach recognize the possibility of negative effects from commercial TV as well as the fact that TV's potential is constrained due to the economic and legal determinants of TV as a profit-oriented institution, they have focused principally on the "positive" effects of TV.

There are several examples which illustrate mainstream researchers' major concern for TV's positive potential.[10] In one of the first articles which contended that TV is more than "mere entertainment," Leifer, et al., (1974) proposed a way to take better advantage of TV: the production of specific educational programs enacting TV's potential. Support for the production of such programs would seem reasonable if they are viewed as an alternative in exploring TV's potential and its use for education. What is striking, however, is that from the very beginning the recommendation was seen by its own proponents as containing limitations (see Leifer, et al., 1974, p. 235.).

In the same line of reasoning, other authors also have emphasized the concern for exploring the potential and positive aspects of TV and of newer video technologies. For example, Greenfield (1984) endorses this dominant concern in a recent book which synthesizes a great deal of research on cognitive effects of TV. At the same time, she speculates about the cognitive impact of newer media.

> The greater need is for positive ideas that can help make TV and the newer electronic media constructive forces in children's lives...(therefore), I emphasize the potential of each medium, rather than its most typical uses. I delineate the positive role each can have in an essentially multimedia world (p. 6) emphasis added

This optimistic way of thinking is justified further with pragmatic reasons.

The negative influence of TV for children's learning process has been an issue ever since TV became common place. The preoccupations of parents and educators are well known by researchers. Kupisiewicz (1984) expresses a generalized belief that TV has a potential to counteract or solve current educational problems. This capability goes beyond the more commonly accepted TV potential for fostering cognitive abilities.

> "...the technology of teaching needs to be restructured. In place of authoritarian verbal teaching, centred on the past and based on the transmission and reproduction of information, we need an education oriented towards the future, which promotes the pupil's initiative and independence, arouses his interest, and motivates him to continue to study...this is an additional justification for the aim of associating the school with the media... (p. 9).

Since the introduction of TV in society over three decades ago, similar analyses in which TV's technical possibilities are reviewed in the abstract abound in the literature (Rao, 1985). How realistic is this optimism about the positive potential of TV? While it cannot be denied that the field of educational technology has benefitted a great deal from the development of video technology, the issue is not whether TV and newer video technology have potential for instructional activities. Rather, the issue is that this potential has to be demonstrated in practice; that is, enacted within existing economic, political and cultural conditions.

If researchers fully controlled what is transmitted by TV, their insistence on exploring the boundaries of TV's potential would make sense. But this is possible only in the field of educational television (and related technologies). Unfortunately, educational programming constitutes a small minority effort within the vast majority of non-educational, commercial TV. The freedom to explore TV's technical potential is limited.

Mainstream researchers have been concerned principally with "what can TV be made to do" (vis-a-vis learning). An alternative perspective asks "what are other effects of TV" that are generated in the search for what TV can be made to do and "how do those other effects compare" with the intended effects. In addition, the alternative perspective asks "is not the teaching potential of TV as a social institution severely constrained by its commercial, profit-making organization?"

II.4. New Proposals and the Search for the Potential of TV Revisited

Even if inadequately contemplated, the negative influence of TV has not been totally denied. Mainstream researchers seem to implicitly recognize that previous efforts to harness the potential seen in TV for educational purposes have bypassed the negative influence. For example, it has also been suggested that parallel prosocial programming by itself is limited in its ability to counteract commercial TV's negative influence (e.g. "Freestyle" for sex stereotyping, Johnston and Ettema, 1982). Recently another type of proposition is being worked out with the aim of reaching the distant potential of TV. In distinction with those that call for the production of more and better educational programs, the new propositions are directed to alter the ways in which viewers watch TV.

There have been basically three propositions. The first one concerns the reduction of the time children spend in front of the TV screen. This proposition is known as the "TV diet" (Slaby and Quarfoth, 1980). The second one focuses attention on the mediation of adults when children watch TV (Singer and Singer, 1983). Finally, the third proposition emphasizes the education of viewers as needing to be more critical to what is transmitted in TV (Anderson, 1983).

While these efforts are very interesting and could ameliorate the negative impact of TV, the responsibility for the effects is inevitably displaced from the real center, i.e. the TV industry, and reassigned to the viewers themselves. Independent of the displacement of responsibility, the three propositions mentioned above are also inherently limited. Diets by themselves are not necessarily educational. A person reduces the amount of food, but she or he does not necessarily learn how to eat well. The mediation of adults cannot be guaranteed all the time. And the education of critical viewers has not proved to be as effective as it would seem to be theoretically. For instance, Neuman (1982) reports evidence that, although there is a difference in TV's impact on viewers according to their educational level, this difference is very small. Neuman also indicates that a person's cultural heritage seems to be more important than educational level for differentiating the effects. The reason for this might be that TV influences mostly beliefs, opinions and meanings, rather than concepts or rational thinking (Hall, 1977). Again, the point here is not to deny the instrinsic value of these propositions, but to note that this value is limited in the scope of its effectiveness.

II.5. Failed Attempts to Modify Commercial TV Programming

Last but not least, it is important to mention that there have been some attempts to go beyond propositions that seek to ameliorate the negative influence of TV. These attempts seek to change programs, not viewers. Groups of professionals and parents have organized to study TV programming, raise criticisms and questions, and make specific recommendations to programmers and producers. One of these groups is Action for Children's Television (ACT). This group has been very active in the past few years in making public calls for reducing violent programs--especially when children

are most likely watching TV--and commercialism and sensationalism in news as well as calls for increasing prosocial and educational programming for children (ACT, 1983).

Groups like Action for Children's Television are important as a public forum for discussion of TV and children's education. Results, however, have been limited. So far the major accomplishment has been to raise awareness among the general public--including children--about the negative aspects of TV and their influence on children's education. Impact on decision-making processes, priorities and characteristics of commercial TV programming, however, has been rather modest.[11]

The critical question for the future of groups like ACT is whether they are going to be able to construct sufficient political leverage to face the TV monopolies and to modify substantially TV programming. As Rowland (1985) contends, what researchers are learning from the debate about TV research is that TV is not only a social, but also a political phenomenon, and that therefore the "...only way to approach it is to engage it politically, not just to criticize it" (p. 14).

II.6. What Ever Happened to Policy Recommendations?

Besides groups of parents and professionals, some mainstream researchers have noted the lack of policy research in the field. The first problem with the formulation of policies for a better TV has been the kind of information generated from mainstream research. Here one should mention the case of the report about television and behavior sponsored by the National Institute for Mental Health (NIMH, 1982). The report synthesizes a great deal of research evidence in different areas such as those of TV violence, cognitive and affective aspects of TV, but fails to present clear propositions for policy.

Furthermore, the report assumes an explicitly ambiguous position: it recognizes the relevance of the findings for designing policy and for decision-making within the TV industry on the one hand, but on the other states the intention of not prescribing recommendations (Cook, et al., 1983). It is up to the good will of those willing to assume responsibility to consider the findings presented in the report. The absence of policy recommendations may be ascribed to epistemological features of the report. The unit of analysis was the individual rather than the institutional level. Cook, et al (1983) suggest that the title of the report would be better if it were something like: "psychological consequences of TV entertainment at the individual level, with special reference to children" (p. 165).

The lack of an institutional analysis of the influence of TV makes it difficult to have an adequate base of information from which to design policy. Other authors have arrived at the same conclusion. For instance, Mansell (1985) observes that communication policy research in Canada has not been useful because it has not considered explicitly public as well as institutional vested interests impinging upon decisions affecting the TV programming and broadcasting industry. What Mansell (1985) suggests is that "...it is not simply more policy research that is needed, but rather, more penetrating analysis of institutional power relations" (p. 154). Similarly, one can endorse the suggestion offered by Cook, et al. (1983) after analyzing the implicit assumptions of the NIMH report to the effect that in order to bring about changes and to impact decision-making in TV research,

> ...the predominant unit of analysis would be institutions rather than individuals; the methods would be historical and qualitative as well as quantitative; the causal model would involve reciprocal as well as unidirectional causal influences and a special emphasis would be placed on leverage points... (p. 197).

The reconsideration of the major concern in research about cognitive effects of TV should be a task for the present. The rapid development of TV and newer video technology in recent years promotes, even more than before, an optimistic thinking strengthened by a fascination with all those ideal future states that video technology promises. As the potential increases, so does the gap between it and the current situation. And..."by definition (the gap) cannot be bridged only by general positions or proposals, however internally convincing and coherent these may be" (Williams, 1983, p. 11).

III - MAINSTREAM RESEARCH ASSUMPTIONS IN THE STUDY OF COGNITIVE EFFECTS OF TV

One explanation for the paucity of knowledge about unintended effects of TV was advanced in the previous section. In this section a different yet complementary explanation of the lack of knowledge of unintended effects of TV is developed. The focus here is on the assumptions underlying research about cognitive effects of TV.[12] The first objective is to make these assumptions explicit. The second is to examine them critically in order to show how it has been epistemologically possible to focus on the intended effects of TV while ignoring the unintended effects.

III.1. The First Assumption: "Intentions Do Not Affect Knowing"

Within the mainstream approach, it has been assumed that the researchers' questions and purposes--whether the production of an intended or the prevention of an unintended TV effect--do not make an essential difference for the understanding of the effects. This assumption is related to an epistemology in which the problem of knowing an object of study is a matter of choice of methods, independent of both the particular object in question and the re-

searchers' purpose in studying it (Slack and Allor, 1983). This position implies that the decision of what to research, whether this be learning outcomes which are improvements of viewers' cognitive skills or distortions about social reality, can be made simply on pragmatic grounds. The choice of object of study is a personal decision made by the researchers and does not affect the knowing of the object (Bryman, 1984). Within this rationale, it is possible to explain all cognitive effects of TV by looking only at those effects within the researchers' scope of interest. Researchers are able to explain a TV effect by predicting its occurrence. This is to say that the successful production of a TV effect, e.g. an increase in children's vocabulary through an educational TV program, contains an explanation of why this desired effect occurred.

This assumption and its related suppositions are not tenable, for at least two reasons. The first one has to do with the "interest relativity of explanation" and the second with the "structural divergence" of explanation and prediction.

III.1.1. Explanatory Relativity

According to the notion of "explanatory relativity" (Garfinkel, 1981) (or "interest relativity of explanation," Putnam, 1979; 1982), all explanations take place relative to a "contrast space," which is the set of alternatives pertaining to the particular question raised. Potentially every question has different answers, but only one answer would meet the correct contrast space. The example offered by Garfinkel is that of the "robber" and the "priest." To the question "why did the robber rob banks?," the answer given by the robber is that banks are where the money is. This answer says that the robber decided to rob banks rather than churches or any other place. What

is problematic for the robber (given his intentions) is to find the place where the money is. In contrast, the answer sought by the priest was not why the robber robs banks rather than churches, but why he robs at all. The priest's intention was to know why the robber robbed, indenendently of the type of place for robbing. In the case of TV, the question for mainstream researchers has centered predominantly on the production of positive effects instead of on why TV effects occur at all, or on effects instead of on the institution that produces them.

The importance of explanatory relativity inunderstanding an object of study lies not only in the match or fit between the intentionality of the question and the answer (or their contrast spaces), but also in the answers themselves. Since contrast spaces are presuppositions of the explanatory context (Garfinkel, 1981), contrast spaces determine what counts as an explanation. Garfinkel's example of the teacher grading on a curve is illustrative of this point. A teacher is grading final papers on a curve and decides to give only one "A" to the best final. To the question of why one of the students, Mary, got the "A," the common answer is because she wrote the best final, which might be true. But the issue is not whether the explanation is true or false, but rather that the presupposition (or structural condition) that only one student could get an "A" has been taken for granted. This presupposition is important because it differentiates two types of questions and answers: the structural and the individual. What the given answer really is saying is that given that only one student could get an "A," this student was Mary, rather than John or Bob. The answer implies an individual explanation. The structural question about why

only one person could get an "A" has not been contemplated. The individual answer cannot answer the structural one because: "...individuality signifies unique connections in the whole" (Dewey, quoted in Scheffler, 1974, p. 241).

As discussed in the previous section, most researchers of the cognitive effects of TV have taken for granted the fact that TV is a private, profit-oriented institution; they have not questioned why this is so. In explaining the effects of TV, one consequence of not asking structural questions is the lack of information about "counterfactuals," i.e. "what could have been otherwise" (Garfinkel, 1981, p. 56). This type of information is important since it reveals what needs to happen for an effect not to take place. The relevance of this type of information for avoiding negative unintended effects of TV is evident. For example, a structural question about how to erradicate the negative effects of TV advertisements on children could lead to challenges to the profit-oriented character of TV. Instead of placing responsibility for the effect of consumerism on children, a structural explanation would place it at the institutional level, where the economic aims of the TV industry are pursued. The explanation about why Mary is influenced to consume so much would not be "because she is a heavy viewer," but instead, "because this is the consequence of the priorities of commercial TV programming." That Mary is a heavy viewer would only answer the question of why she, rather than other children, are being impacted by TV. The individual explanation only looks at whatever is particular about Mary that accounts for the effect. While an explanation at the particular or "micro" level may be correct, it is not the whole explanation. The decision to limit TV research in focus has resulted in a partial explanation, i.e. the first assumption is incorrect.

III.1.2. Prediction and Explanation

The second reason why the first assumption is incorrect has to do with differences between "explanation" and "prediction." As mentioned earlier, the development of a scientific practice oriented mostly toward solving practical problems gave rise to a strongly predictive social science (Rowland, 1983). TV research oriented to predictions was considered very important for accomplishing the desired end of exploring TV's potential for educational and prosocial purposes. Because prediction was the goal of most experiments, it was also methodologically important. The problem is that by predicting the occurrence of a specific learning outcome in the viewers, researchers have not necessarily explained why that learning outcome occurred.

The limitation in not explaining an effect is that, if not explained (even though predicted), the effect cannot be prevented from occurring. The example of copper conducting electricity (Scheffler, 1981) illustrates the point. According to this example, a person can predict that a sample of copper will conduct electricity based on the knowledge that other samples have invariably done so. Once the experiment is over and the prediction fulfilled, there is still no information about why the copper conducted electricity. The repetition of the experiment by itself will not generate this information either. As Scheffler (1981) notes, neither will the listing of all previous experiments explain their occurrence.

That a successful prediction does not imply an explanation of why an event occurs is even clearer in the case of TV. For example, the production of a particular educational TV program requires several different elements: the technology of transmission; a content to transmit; a symbol system; educational didactic factors and organizational factors. All of these

elements somehow contribute to produce a specific effect. What a successful prediction would imply is that the necessary factors for a learning outcome to occur were present and/or rightly combined in the particular program. As Salomon and Martin del Campo (1981) have noted, the success of an educational program such as Sesame Street in producing the desired learning outcomes in the viewers might be a result of "...a combination of well functioning technology of transmission and a symbol system" (p. 6). However, it also could be argued that success was due to other factors or other combinations. The point here is that to provide grounds for why an effect must have occurred is not to explain it (Scheffler 1981).[13]

The focus on predictions within mainstream TV research is only understandable in terms of the major concern among researchers of producing positive effects, for which prediction rather than explanation would be required primarily. This is because predictions have been functional to the predominant type of scientific practice. But predictions are limited even within this practice. First, predictions need to be based only on those elements which are always present when the effects occur. But what about non-events "caused" by the absence of certain elements?[14]

The second reason why predictions might be limited for the understanding of TV's cognitive effects is due to the types of elements which can be subject to control. For instance, in the case of educational programs with their teaching goals, the occurrence of expected learning outcomes would depend on success in adequately controlling variables such as TV's symbol system, format of the program, language, etc. However, in the situation when not even specific goals are known and all elements tend to escape

researchers' control--which is the most common situation with commercial TV--the role for prediction is minimal. As Thayer (1983) notes, "...laboratory science predicts nothing that it does not control or that is not otherwise fully determined" (p. 85).

One consequence of the emphasis on predictions rather than on explanations is the fact that educators and researchers alike can be successful in the production of desired TV effects only if certain conditions are fulfilled. The success, however, does not necessarily imply an understanding of the crucial cause of these effects. Another and perhaps more important consequence of the focus on predictions is that attention has been paid to controlable effects. Variables of those few sought-after effects of educational TV (e.g. vocabulary expansion) are subject to control by the technical staff, unlike unintended effects of these programs. Moreover, since decision-making about content, themes and issues to be broadcast in commercial TV is not a target of inquiry in the TV effects field, effects are left unexplored and unexplained, and not understood.

In the light of the above discussion, if understanding is the objective, it would make more sense to look for explanations rather than to focus solely on predictions. Explanations would provide information which helps to avoid the unintended and negative effects. Even reference to only those "...contingencies which, being unrealized, the consequent invariably fails to follow" (Scheffler, 1981, p. 24) would be seen as insufficient. In addition, a description of the process by which the effect comes to pass would be necessary. This would allow the researcher to know the mechanisms by which a set of different aspects or contingencies are related and thus cause the effect in question (Keat and Urry, 1982). This latest discussion, however, leads to the debate between "positivist" and "realist" accounts of causality, a topic which excedes the scope of this paper.

III.2. Second Assumption: "One Can Understand TV Without Looking at Its Social Origins"

The mainstream approach to cognitive effects of TV has also assumed that it is possible to fully understand these effects by looking at TV only as a medium. There have been some variations. Some authors have emphasized that the effects of TV should be understood in the strictly technical aspects such as visual and auditory features like sound and camera shots (Huston, et al., 1983; Rice, et al., 1982). Others have stressed the organizational aspects and formats of programs (e.g. Collins, 1983).[15] But underlying all these variations there is an assumption that the source of the effects is inherent in TV as a technical medium, and that therefore, effects can be understood correctly without looking at the institutional aspect of TV.[16] This way of understanding the effects of TV has its origins in the McLuhan tradition for which "the medium is the message."

The belief that it is possible to understand TV and its cognitive effects without looking at the way TV as an institution is determined and controlled in society has been sustained by what Williams (1983) calls "technological determinism." Here it is implicitly assumed that the way TV has developed and is used in society is the "only possible way." That is to say that TV developed the way it did by historical necessity and not as a result of cultural, political or economic forces representing the actions of intentional human beings.

Finally, the pervasiveness of the idea that the medium is the message has facilitated the disassociation of technology and culture. This second assumption of TV as a purely technical medium is untenable because technological development itself cannot be separated from the larger social, economic and political context. Television content and television technical forms are culturally determined.

III.2.1. The Fallacy of Technological Determinism

Following Williams (1983), technological determinism implies a basic belief that "a new technology emerges only from technical study and experiment," which then pushes towards changes in society and towards human adaptation to these changes. In other words, technological determinism implies the acceptance of a self-feeding technological development which is not determined by any other aspects, such as politics or economics. However, as Williams notes, this is a fallacy as it can be demonstrated historically that technologies are not technologies until they are marketable. He explains by saying that it is only when a technical invention is converted into available technology that its general significance begins. This has been the case with radio, television and other media such as video games and computers.

Williams (1983) suggests that inventions are developed within "existing forms and possibilities" and can result in quite different alternative technologies. This is the case of radio telephone and radio broadcasting: both had the same source, but each developed into a different system. In addition, any given technology can be developed in alternative ways. Television in particular could have been different from what it is today. (An exemplary case of this point is the Mexican broadcasting industry.)[17]

It is Williams again who points out that "the moment of any new technology is a moment of choice" (1983, p. 146). This choice is not made in a vacuum, but within specific existing social and economic conditions. This suggests that, within <u>other</u> conditions, different technical inventions would be developed or the same ones could follow different pathways. For example,

Quester (1984) indicates that "...a very different result will emerge if the television broadcast network of the future turns out to depend on satellite transmission rather than cable television" (p. 540). Recently, it has been argued that the introduction of color TV in Canada was delayed, not because of technical problems, but because of vested interests in the United States. (see Mansell, 1985, p. 159).

Alternative technological developments based on other types of ownership and message distribution are indeed feasible. Williams (1983) and Mattelart and Piemme (1981) are among those authors who have suggested concrete alternatives for television. (A discussion of these and other possibilities is fascinating, but goes beyond the scope of this paper.) What is important to stress here, however, is that interesting alternatives to media operation in society do already exist. Yet these alternatives are not systematically nor seriously considered in the mainstream exploration of TV's potential. Because it was taken for granted by most mainstream researchers that television and newer video technologies developed "naturally," the media's raison d'etre, specific uses and control never became problematic and thus were never legitimate objects of intellectual inquiry.

III.2.2. The Cultural Determination of TV Content and Formal Features

It was argued above that the separation between TV as institution and TV as medium is inappropriate and impossible since TV as an outcome of technical development is also the resultant of a political-technological process within a particular societal milieu. TV cannot be conceived only as a medium. The second reason why this is an arbitrary separation is the inescapable cultural determination of TV content and formal features.

That TV content is culturally influenced in a particular manner is perhaps not so difficult to comprehend. In a similar way, TV's technical aspects encompass a cultural influence. This is mainly so because culture fixes sets of rules and patterns or "schemas" which determine a specific organization of images and concepts (Camargo Heck, 1980; Bem, 1981). The way in which these patterns are manifested in TV programming is what Hall (1980; 1980b) refers to as "codes." The process of encoding is a process by which TV's producers make different images intelligible. This process then, implies a selection of different technical elements: camera movements, sound, color, textures and so on. All these elements are combined in a way that makes sense. That is, encoding is a process by which different technical elements and their combinations are given meaning. As Hall (1982) remarks for the production of TV programs,

> ...questions of selection and exclusion, the editing of accounts together, the building of an account into a story, the use of particular narrative types of exposition, the way the verbal and visual discourses of, say, television were articulated together to make a certain kind of sense, (cannot be) all mere technical issues (p. 68).

Along the same line, "professionalism" within media in general and TV in particular cannot be taken as the pure mastering of all the skills necessary to technically produce a message (Gumpert and Cathcart, 1983). Professionals working in TV industries--both in the production and in the transmission of TV messages (e.g. reporters, commentators, camera-people, etc.)--are carrying out not only a technical professional (thus neutral) performance (e.g. Glasgow University Media Group, 1976; 1980). They are sources of cultural connotations for the TV programs as well (Hall, 1982). This might

not be by conscious intention so much as it is because all persons are immersed in a particular cultural milieu. (see White, 1983, p. 292). In light of these arguments the second assumption is incorrect.

III.3. Third Assumption: "TV's Cognitive Effects are Predominantly on Skills"

The predominant belief that the medium is the message led researchers within the mainstream approach to think that a separation between TV's institutional and technical aspects can be made without undermining the understanding of the effects. This has led people to further assume that most cognitive effects of TV are effects on skills and knowledge rather than on beliefs. In other words, not only has TV been reduced to its technical aspects, but TV's cognitive effects have been reduced to effects only on certain cognitive domains.

The assumption that skills, and to a certain extent knowledge, are the cognitive domains most affected by TV has likewise been associated with a conception of education as mainly the development of skills (e.g. Greenfield, 1984). With TV understood as a set of technical properties, it is a simple step for the technical capabilities of each medium to be related with specific cognitive effects. (The analysis by Greenfield (1984) is rich in examples of the type of cognitive effects each medium can produce.) Most of these effects are seen as <u>positive</u> ones in that they generally represent improvements of the viewer's cognitive skills.

The third assumption cannot be tenable for two major reasons. One, the conception of education mainly as a process of skill development is a narrow way of understanding both the learning process and education. Two, the

chief characteristic of TV of presenting information as if it were true (Noble, 1983) influences viewers' beliefs perhaps more than any other cognitive domain (i.e. knowledge and skills).

III.3.1. The Cognitive Domains Affected by TV

As stated in the first section, as a process learning is not only broader than teaching, but goes beyond education itself. Learning is not limited to education. Nor is education limited necessarily to the development of skills. Here it must be argued that education certainly encompasses skills development, but education is also a socialization process within certain cultural values and beliefs. That education cannot be reduced to the development of skills is an outdated discussion. What is not so clearly understood is that cognitive development, besides including cognitive skills such as induction and deduction (necessary to process information), also encompasses the development of conceptual knowledge, and most importantly, the acquisition of beliefs.

Scheffler's (1983) distinction between skills, knowledge and beliefs is enlightening here. According to him, each implies a different type of cognitive process: skills are "knowing how," distinct from "knowing that" and from "believing that." To believe something implies to consider what is believed, to be true (independently of whether or not what is believed is true). This is not the case for "knowing how" or "knowing that." For example, reading a book and knowing its content implies having the necessary reading skills. This, however, does not imply believing that the content of the book is true. The important point here is that the truth condition of knowledge does not come from the skills for arriving at that knowledge since truth is not inherent in a procedure. This means that in the case of

TV viewing, truth is not to be found in the mechanical processing of TV's information, but instead in what that information proposes. For the purpose of this paper then, cognitive skills constitute only a part of the cognitive domain affected by television.

III.3.2. The Power of TV to Make its Messages Believable

Among visual media, TV is perhaps the most powerful medium because it presents information as if it were true (Noble, 1983; Feilitzen, 1981). This "power" of TV derives from three sources. One source is the manufacture of news. News is a manufactured product not in the sense that it is invented or made up, but in the sense that "...it is the product of a culturally encoded and socially determined process of making..." (Woollacott, 1982, p. 296).

Another source of TV's power to make things seem true stems from the service TV performs in making viewers indirect witnesses of events for which they do not have first-hand knowledge or experience (Woollacott, 1982). The content of TV is especially vulnerable to be taken for granted because the visual system of signs upon which this content is constructed is widely available in any culture. The availability of visual signs appears to involve "no intervention of coding, selection or arrangement" (Hall, 1982, p. 76). Furthermore, TV appears to reproduce only the "actual trace" of reality in the transmitted images. Here one can argue as Hall does that this apparent reproduction is an illusion--"the naturalistic illusion"--because the construction of TV content, that is, of the "...combination of verbal and visual images which produce the effects of reality, requires the most skillful and elaborate procedures of coding" (1982, p. 76).

The coding is noticeable for those events which somehow appear to threaten the status quo, such as events related to minorities or to other countries. But for other events (e.g. the roles in which women are presented in entertainment programming), the codes cannot be apprehended easily since they are inherent in a generalized way of making sense of reality. This is why Hall (1980c) refers to the "natural" as only a "naturalized" TV re-presentation of reality. That is, TV makes events' meanings reflect the most universal common sense. This appears to be a very spontaneous function of TV due to the documentary character that the visual image possesses.

The third source from which TV acquires power to make its content believable is its high degree of "representationalism," i.e. the technical capability to represent reality. The representational character of media is given by each medium's technology. Among media, TV is characterized by perhaps the highest degree of representationalism. As Gumpert and Cathcart (1984) suggest, the degree of representationalism increases when the technical power to duplicate and replicate increases. Since the sense of "verisimilitude," i.e. the appearance of truth, is interrelated with the degree of representationalism, the higher this degree, the more verisimile the TV content will be. The appearance of truth is, however, not only dependent on the technology of the medium in question, but also on the program creators' intentions. This is to say that a high degree of representationalism is necessary for the appearance of truth, although it is not sufficient. This is also why different formats (e.g. comedy and drama) used in TV vary in degrees of representationalism. In short, the representational character of TV is technology-bound, but the decisions about what to represent and how to do it are not. For all these reasons, the assumption that TV's effects are almost exclusively on skills is not tenable.

In sum, the three assumptions examined above have, on the one hand, led to a double reductionism in the study of TV cognitive effects. On the other hand, these assumptions have facilitated researchers to exonerate TV and the newer media from responsibility of unintended and not-intended effects on children's cognitive development, especially for those effects on beliefs. The original separation of researchers' intentions from the research object of inquiry has been reproduced at different levels. As shown above, these divisions and separations are: one, between TV as social institution and TV as technical instrument: two, between TV's cultural and technical forms; and three, between effects on cognitive skills (and knowledge) and effects on beliefs. Erroneous assumptions have meant that unintended and not-intended effects have been attributed to the "social environment" and to TV viewers' "malpractice" while television has been allowed to "stay clean."

CONCLUDING REMARKS

This paper began by recognizing two related facts. One was the paucity of knowledge about unintended cognitive effects of commercial TV and the other was the lack of interest among mainstream researchers in trying to understand TV's unintended effects. Both are manifested in the current tendency to implicitly blame the victim when these unintended effects become obvious rather than to explore their structural origins. The paper proposed an epistemological discussion as a means for explaining the lack of knowledge about unintended effects.

The initial claim was for the need to critically examine mainstream research concerns and assumptions in the study of TV's cognitive impact.

Here it was argued that the paucity of knowledge about the unintended effects has been principally a consequence of researchers' choices of what to study. The paper argued that commercial TV's unintended effects are both quantitatively and qualitatively relevant for children's education. This was to say that there is a need to investigate these effects and for educational researchers to take responsibility in understanding them.

The explanation developed in this paper had multiple aspects. The paper argued that mainstream researchers have focused mainly on what TV can be made to do; that is, on its intended effects. More concretely, a pervasive search for the educational potential seen as inherent in TV has guided much of the research effort. This focus was situated historically as part of the development of the braodcasting industry and scientific scholarship in the United States. Research inquiries into TV's potential have ignored the real constraint on the realization of that potential: the profit-making definition of commercial TV and its unintended effects.

The dominant research interest, i.e. the intended effects via the production of more educational TV programs, was challenged from an alternative perspective aimed to understand primarily and directly the unintended cognitive effects of TV. The alternative approach seeks to prevent the undesired and damaging unintended effects from occurring. Consequently, this perspective gives primacy to explanations (rather than to predictions) and sustains that institutional origins of TV's cognitive effects (rather than only technical factors) also need to be given attention.

Three of the major assumptions which sustain the mainstream approach to TV's cognitive effects were examined. The paper argued that the tenuous nature of these assumptions explained in part an optimistic spirit which predominates among mainstream researchers. Most importantly, the paper

suggested that these assumptions produced a doubly reductionist conceptualization of TV and its effects. Also, by believing the assumptions, researchers incorrectly exonerate TV--both as an institution and as a medium--from responsibility for TV's unintended effects, assigning that responsibility to individual viewers.

Notes

1

With the exception of Montoya and Rebeil's and Hornik's works and of a few studies about TV's influence on children's "construction of social reality" (e.g. Dorr, 1983: Hawkins and Pingree, 1982: Peterson and Peters, 1983) and on children's reading skills (e.g. Salomon, 1982), unintended cognitive effects of commercial TV have not been the subject of much research. There is some literature about TV's influence on "social roles stereotyping" (e.g. Greenberg, 1982). Predominant here are studies about TV images of foreigners and minorities (e.g. Stein, 1982: Gumpert and Cathcart, 1984) and about the influence of TV on sex roles (e.g. Liebert, et al, 1982; Gerbner and Signorielli, 1979). The lack of research into commercial TV's influence on beliefs contrasts with the relative abundance of literature on intended effects of educational TV programs. "Freestyle" is the most recent program evaluated for the intended effects of educational TV on beliefs (e.g. Johnston and Ettema, 1980: 1982). There is some literature on intended effects of commercial TV, such as the effect of TV advertisements on consumerism (e.g. Atkin, et al., 1982; Adler, et al., 1980).

2

The focus in this paper is on unintended effects of commercial TV. Unintended effects are considered here as <u>accidental</u> (see Siegel, 1982). Not-intended effects are viewed as those damaging effects which educators <u>consciously</u> do not want to provoke (e.g. TV interference with reading comprehension). Unintended effects are not exclusive of commercial TV: they also result from educational TV (i.e. while accomplishing intended effects).

3

Other criticisms exist of the mainstream approach to media studies. Clark and Angert (1984) point to the lack of a comprehensive model for the study of media effects. Halloran (1980) and Hur (1982) both focus on the negative influence the practice of Western social science has had on media studies. Melody and Mansell (1983) discuss the uncritical character of "administrative research," the predominant type of research in TV studies. Thayer (1983) critiques the "scientistic mentality" he considers to be prevalent among researchers of media effects and Hamelink (1983) criticizes the "empiricist" character of the "behavioristic" approach to media studies. In spite of differences in emphasis, all these critiques call for an <u>epistemological</u> redefinition of the study of media effects (Slack and Allor, 1983) and for the need of an alternative approach to TV research (Heller, 1982).

4

New forms of video technology (cable TV, video games, computers) have increased interest in <u>intended</u> effects, as educational researchers have sought to channel this technology toward instructional purposes (e.g. Greenfield, 1984; White, 1984; Souchon, 1982). The emphasis on the use of TV (and newer video technology) to improve educators' abilities to teach (as reflected in

more intended and fewer not-intended effects) has not been matched, however, by attention to unintended cognitive effects of commercial TV (e.g. distortions of social reality) (Williams, 1983; Attallah, 1984). Furthermore, a tendency to view TV as simply a technical instrument has led to blaming the victim for unintended and not-intended effects (Rowland, 1983; Gerbner, 1984). Witness policy recommendations that are directed to change viewers (the ways they watch TV) rather than programmers and producers (Cook, et al., 1983; Rowland, 1985; Goldberg and Gorn, 1983).

5

Mainstream researchers tend to believe that the development of ever-more sophisticated research methods and techniques is the solution for better understanding TV's effects (e.g. Pool, 1983). This paper disagrees and proposes instead that an epistemological inquiry into the field's object of study and underlying assumptions is sorely needed. Such a discussion has neither been highlighted in the literature about media effects in general, nor in that about cognitive effects of TV in particular (Jacobson, 1985). Authors' explanations for why an epistemological discussion is lacking in the study of TV effects vary. For Rowland (1983), the main reason is found in the linkage between groups of researchers and vested interests in media industries. Thayer (1983) blames the "scientistic mentality" of mainstream researchers. One "article of faith" of this mentality is that any increase in knowledge corresponds to a decrease in ignorance, and that therefore, whatever can be known should be known, even if its relevance for the whole is dubious. The reason given by Chomsky (1979) identifies a mistaken belief held by most behavioral psychologists: a discipline must be defined by its procedures rather than by its object of investigation.

6

Directed by two alumni from Stanford University, this study is a pioneer in the field of TV research. It is perhaps the first study to account for unintended TV effects on both cognitive and affective development of children. Conclusions concern the influence of TV on knowledge, opinions and understanding (beliefs) as well as on attitudes, identification (with program content) and expectations. The contrast between the impact of the educational programs children watched in the classroom and of the programs they usually watched on commercial TV underlines the importance of commercial TV's unintended effects and of the conflicts between these effects and school-based learning.

7

For instance, as Rowland (1983) points out, when TV was consolidated as the newest medium for broadcasting after World War II, the rules and regulations of the broadcasting industry (radio and film) in the U.S. were already set up. The rise of TV industry during the 1950s, then, took place in a social environment determined by legal provisions signifying that TV would follow the "fundamental system of commercial private enterprise control and network programming dominance" (p. 22) set up prior to its availability. Since then, TV's programming has been determined mostly by commercial interests in most capitalist countries.

8

Developed to improve the transmission of information, the cybernetic model is based on three essential elements: a sender, a message and a receiver. Within this model, the important research questions are: first, how precise can a transmitted message be? (the technical problem); second, how accurate can a transmitted message express the desired purpose of the sender? (the communication problem); and third, how much does the message affect the receiver's behavior? (the effectiveness problem). "Feedback"--referring to the flow of information to the sender about the effectiveness of the transmission--allows the sender to correct distortions and be more effective in the future (Montoya and Rebeil, 1983).

9

Research methodologies have been transformed. For instance, there have been shifts from audience research (opinion surveys) to controlled laboratory experiments (after children watch a TV program changes in behavior are observed) to experiments in "real life" (observation in regular settings as TV is watched) (Slaby and Quarfoth, 1980). One recommendation is to look at the relation between TV's cognitive impact and TV's unique visual and auditory features. For an elaboration of this line of methodological concern, see Bates (1980) and Gardner (1983). Another idea is to observe TV viewers' actions during TV viewing, with and without the presence of family and friends (e.g. Desmond, et al., 1985). This is a call to pay more attention to the immediate context and characteristics of TV viewing. Collins (1982; 1983) stresses the importance of looking at the way viewers process information. Similarly, Salomon (1983) emphasizes the role of "mental effort investment" in the act of viewing.

10

The following quote captures the old tradition of respect towards broadcasting industry priorities, while at the same time promoting the "good" side of TV. Both notions together are key for understanding the dominant way of thinking about TV's cognitive impact. "Television entertains and informs. This is a role the industry wishes to fulfill and the viewing public appreciates. Entertainment is necessary if the industry is to interest viewers in large enough numbers to attract commercial sponsors. But while entertaining, television influences intellectual and social development. Consequently, it may be important to place less emphasis on entertainment or information and to use television for promoting healthy development in children" (Leifer, et al., 1974, p. 220).emphasis added

11

On the one hand, some of the recommendations have been very general and asystematic. On the other, even the more detailed recommendations made by ACT (1983), some of which call for specific industrial reforms and regulatory actions, "...have regularly run into the realities of commercial enterprise system and an increasingly deregulatory policy process that simply will not permit substantial meddling with the fundamental purpose and nature of American television" (Rowland, 1985, p. 12). emphasis added

12

Within any paradigm there are several assumptions for different aspects and at different levels of generalization (Kuhn, 1970). Only a few assumptions are selected here. These assumptions are about ways to account for

the cognitive impact of TV on children. The assumptions sustain and characterize the dominant, mainstream approach, although they do not exhaust its meaning.

13

Some researchers argue that neither explanations nor predictions are central to science. They would say that scientists can only be content with "substantiations:" that is, with the provision of grounds about why an event must have occurred. Substantiations are helpful in understanding some events, which is sometimes all that can be expected in the social sciences. (See Scheffler, 1981 for a discussion about the so-called "centrality thesis" of explanation and predictions.) Even so, explanations have primacy in this paper since the objective of the alternative perspective is to understand in order to prevent the undesired and damaging TV effects from occurring. For a discussion of other reasons for the primacy of explanations in the social sciences, see Keat and Urry (1982).

14

This must be understood within the Humean tradition of causality. According to Mill's account (which is within this tradition, see Scheffler, 1981), the existence of antecedent conditions is necessary for an event to take place. That is, the presence of these necessary antecedent conditions is a requirement for the occurrence of an effect. For the contrary case, i.e. the failure of that occurrence, attention is directed to those conditions which being absent the effect would not follow.

15

The content analysis of TV undertaken within the mainstream approach (see Krippendorff, 1980) has focused on content as received rather than on content as a constructed language system (Robinson and Straw, 1984) previously signified (Bennet, 1982). This has impeded researchers from linking TV as a culturally-determined institution and TV's content effects on viewers (Altheide, 1985). For a discussion about the ways in which TV content is culturally determined, see Carey (1977), Johnson (1983) and Camargo-Heck (1980).

16

There is some recent literature on the operation of TV as an institution (e.g. control of content production; media ownership, Bagdikian, 1983; and media decision-making processes, Cantor, 1982), but this literature usually does not systematically address the linkage between TV as an institution and TV's cognitive effects. Even research models like that of Gerbner's "cultural indicaotrs" that apparently do make the connection have been criticised for failing to account for the broader cultural determination of TV in society. White (1983) says: "One of the fundamental criticisms of Gerbner, et al. is that their operative research design does not analyze the role of TV within a broader theoretical framework that explains the major cultural factors influencing the development of particular national cultures" (p. 287). Gallagher (1982) and Murdock (1982) are two examples of the emerging critical studies which relate TV's institutional character and the control of TV content within a broader cultural perspective.

17

Around 1950, when broadcast television was soon to be introduced in Mexico, President M. Aleman asked several Mexican intellectuals to study alternatives and their consequences for introducing and developing broadcast television in Mexico. After a thorough study and visit to European countries and the United States, these intellectuals recommended following something similar to the German model. For instance, they proposed a combined state and community-regulated broadcast system. This would allow communities to directly control some channels while having national programming in others. The finance of broadcasting would be by direct contribution of viewers and by channeling funds from people's taxes. There would be no advertisements. In short, what they recommended was a non-profit oriented television system for Mexico. The President, however, decided to follow the American model: private enterprise (Comunicacion Social, 1983). Some years later, Mexicans learned that the President himself became the main stockholder of the recently-created broadcast industry.

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